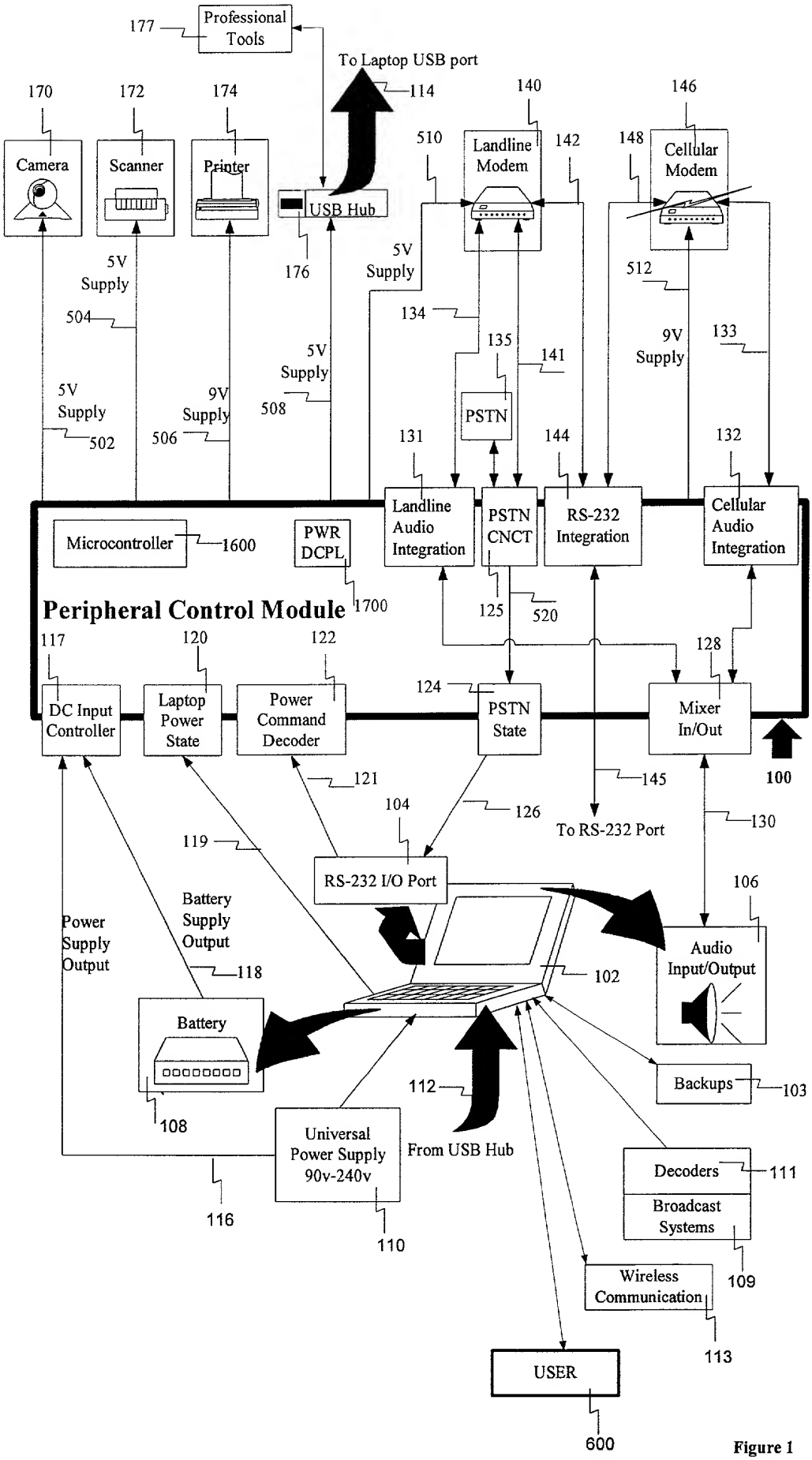

Professional Tools
177
To Laptop USB port
114
170
172
174
140
146
Camera
Scanner
Printer
USB Hub
176
510
Landline Modem
142
148
Cellular Modem
5V Supply
504
5V Supply
502
9V Supply
506
5V Supply
508
5V Supply
134
135
141
PSTN
512
9V Supply
133
131
144
132
Microcontroller
1600
PWR DCPL
1700
Landline Audio Integration
PSTN CNCT
RS-232 Integration
Cellular Audio Integration
Peripheral Control Module
125
520
117
120
122
124
128
DC Input Controller
Laptop Power State
Power Command Decoder
PSTN State
Mixer In/Out
100
121
104
126
To RS-232 Port
145
130
119
RS-232 I/O Port
106
Power Supply Output
Battery Supply Output
118
102
Audio Input/Output
Battery
108
112
Backups
103
Universal Power Supply 90v-240v
From USB Hub
Decoders
111
Broadcast Systems
109
116
110
Wireless Communication
113
USER
600

Figure 1

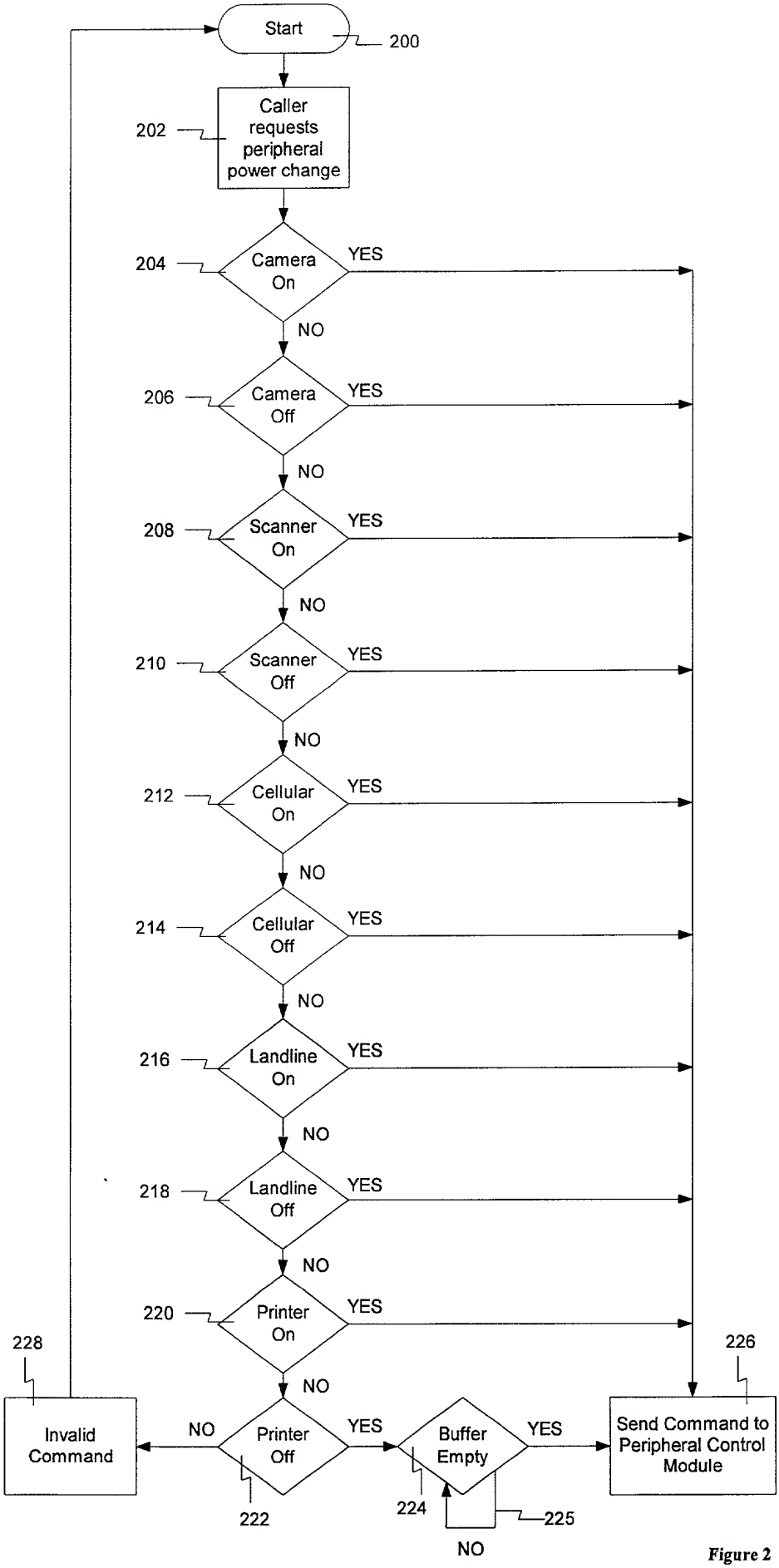

Start
200
Caller requests peripheral power change
202
Camera On
204
YES
NO
Camera Off
206
YES
NO
Scanner On
208
YES
NO
Scanner Off
210
YES
NO
Cellular On
212
YES
NO
Cellular Off
214
YES
NO
Landline On
216
YES
NO
Landline Off
218
YES
NO
Printer On
220
YES
NO
Printer Off
222
YES
Buffer Empty
224
YES
225
NO
NO
Invalid Command
228
Send Command to Peripheral Control Module
226

Figure 2

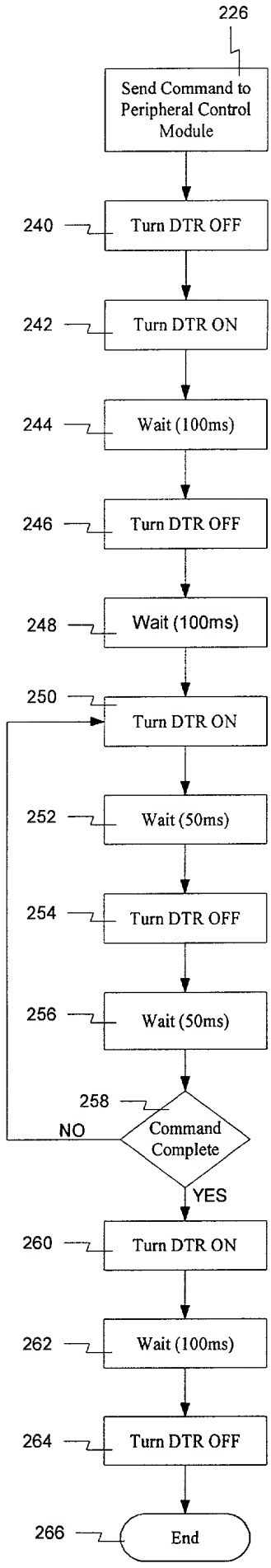

226
Send Command to Peripheral Control Module
240
Turn DTR OFF
242
Turn DTR ON
244
Wait (100ms)
246
Turn DTR OFF
248
Wait (100ms)
250
Turn DTR ON
252
Wait (50ms)
254
Turn DTR OFF
256
Wait (50ms)
258
Command Complete
NO
YES
260
Turn DTR ON
262
Wait (100ms)
264
Turn DTR OFF
266
End

Figure 3

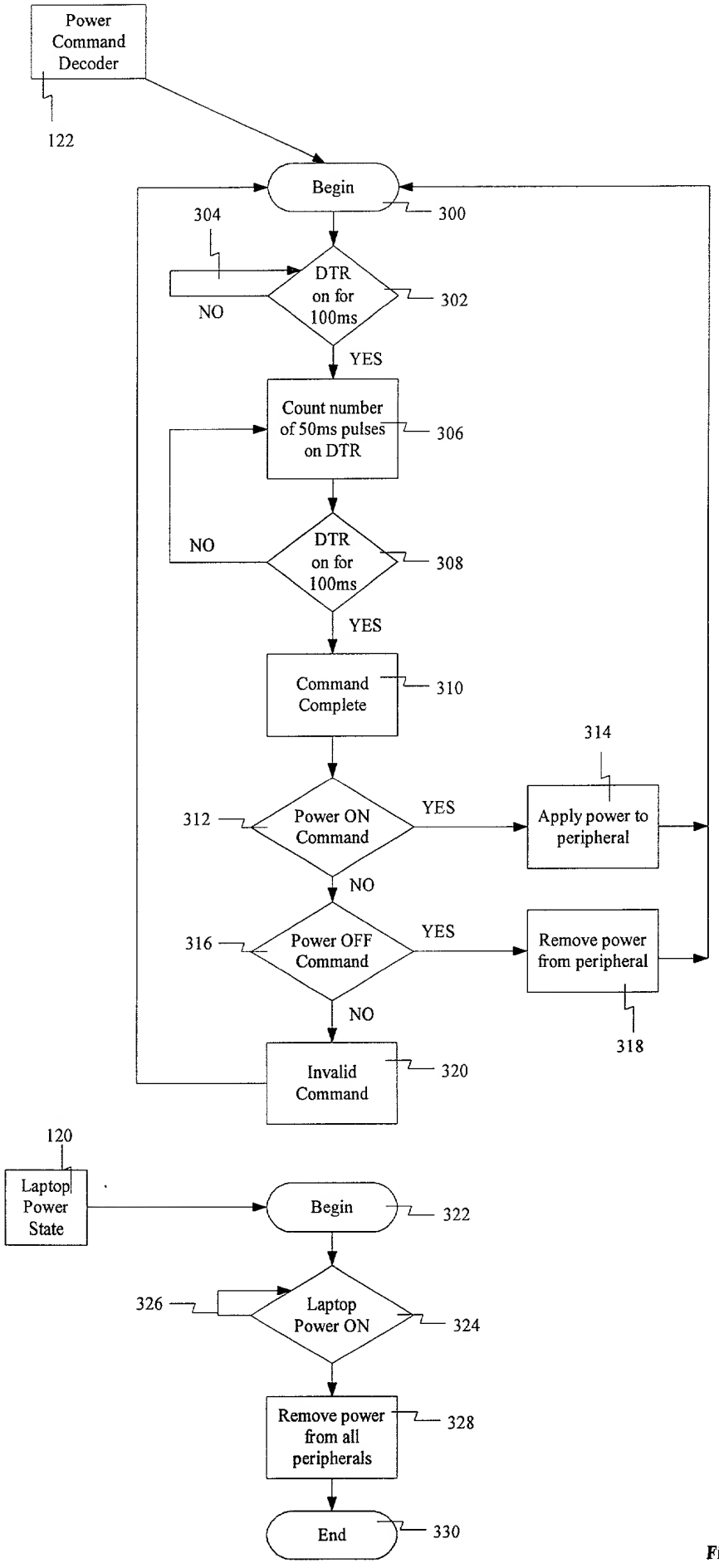
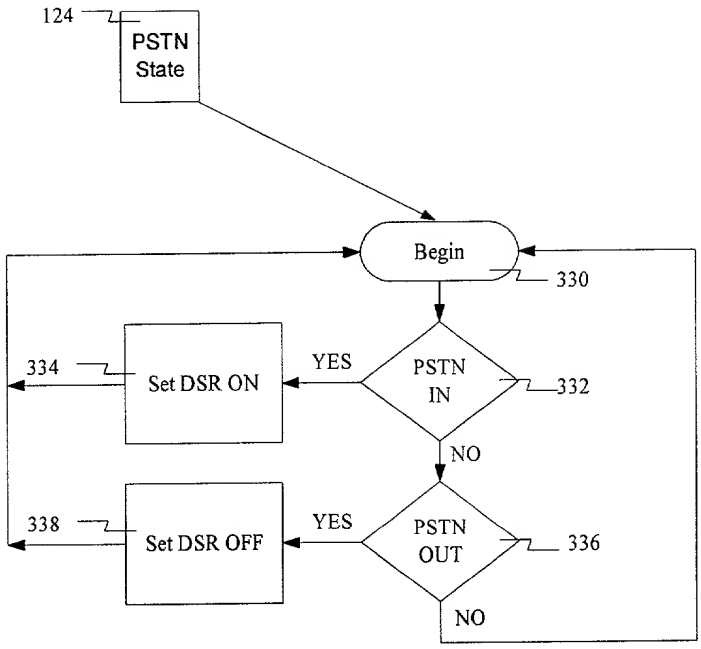

Power Command Decoder
122
Begin
300
304
DTR on for 100ms
302
NO
YES
Count number of 50ms pulses on DTR
306
NO
DTR on for 100ms
308
YES
Command Complete
310
314
312
Power ON Command
YES
Apply power to peripheral
NO
316
Power OFF Command
YES
Remove power from peripheral
318
NO
Invalid Command
320
120
Laptop Power State
Begin
322
326
Laptop Power ON
324
Remove power from all peripherals
328
End
330

Figure 4


124
PSTN State
Begin
330
PSTN IN
332
YES
Set DSR ON
334
NO
PSTN OUT
336
YES
Set DSR OFF
338
NO

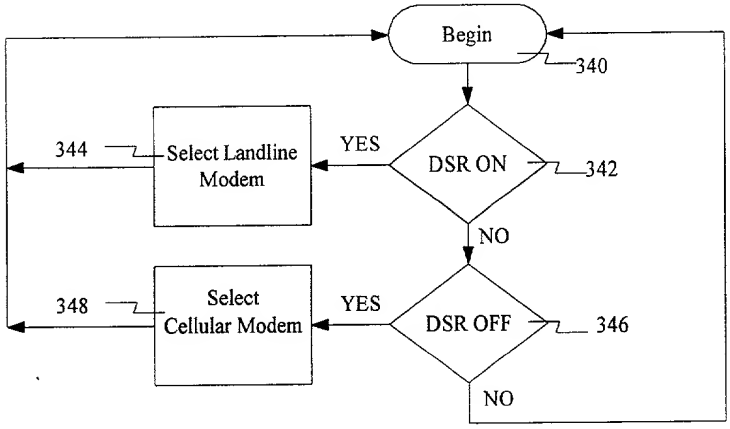

Begin
340
DSR ON
342
YES
Select Landline Modem
344
NO
DSR OFF
346
YES
Select Cellular Modem
348
NO

Figure 5

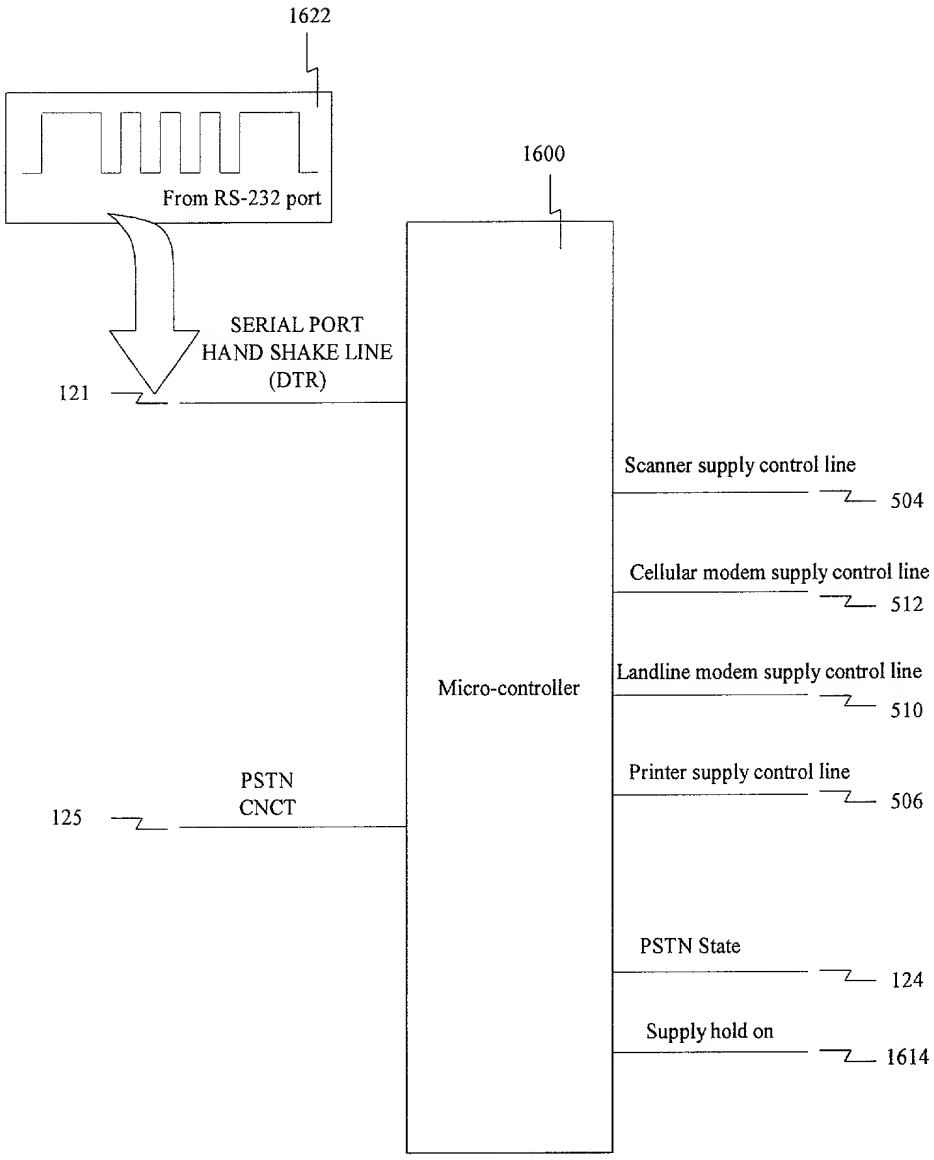

1622
From RS-232 port
1600
SERIAL PORT
HAND SHAKE LINE
(DTR)
121
Scanner supply control line
504
Cellular modem supply control line
512
Landline modem supply control line
510
Micro-controller
Printer supply control line
506
PSTN
CNCT
125
PSTN State
124
Supply hold on
1614

FIGURE 6

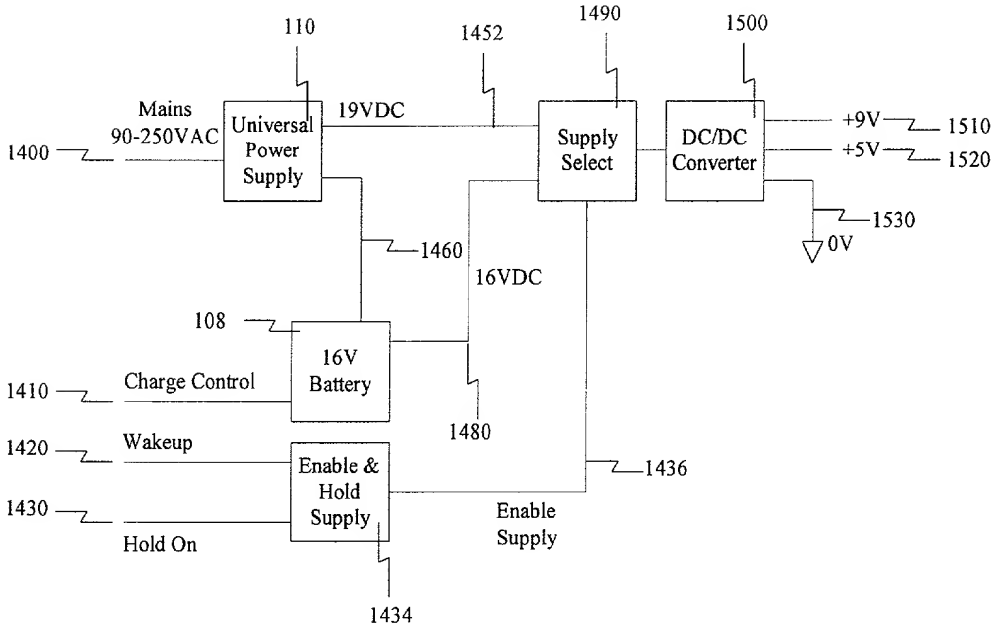
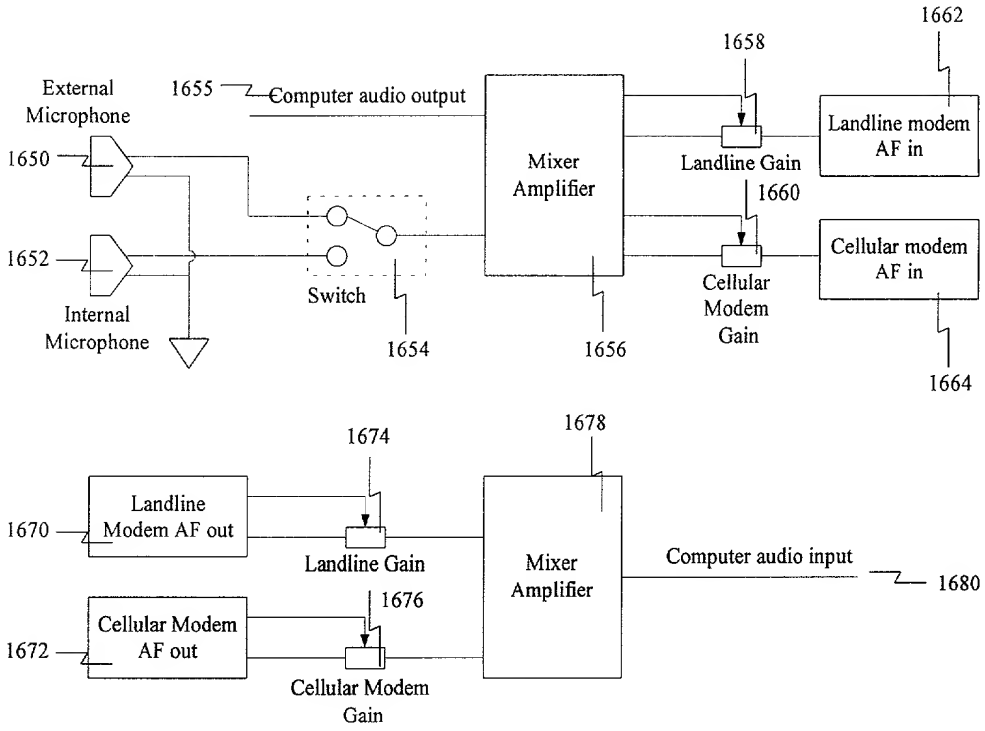

110
1452
1490
1500
Mains
90-250VAC
1400
Universal
Power
Supply
19VDC
Supply
Select
DC/DC
Converter
+9V
1510
+5V
1520
1530
0V
1460
16VDC
108
16V
Battery
1410
Charge Control
1480
1420
Wakeup
Enable &
Hold
Supply
1436
1430
Hold On
Enable
Supply
1434

Figure 7


External Microphone
1655
Computer audio output
1650
1652
Internal Microphone
Switch
1654
Mixer Amplifier
1656
1658
Landline Gain
1660
Cellular Modem Gain
1662
Landline modem AF in
Cellular modem AF in
1664
1674
1678
Landline Modem AF out
1670
Landline Gain
Mixer Amplifier
Computer audio input
1680
1676
Cellular Modem AF out
1672
Cellular Modem Gain

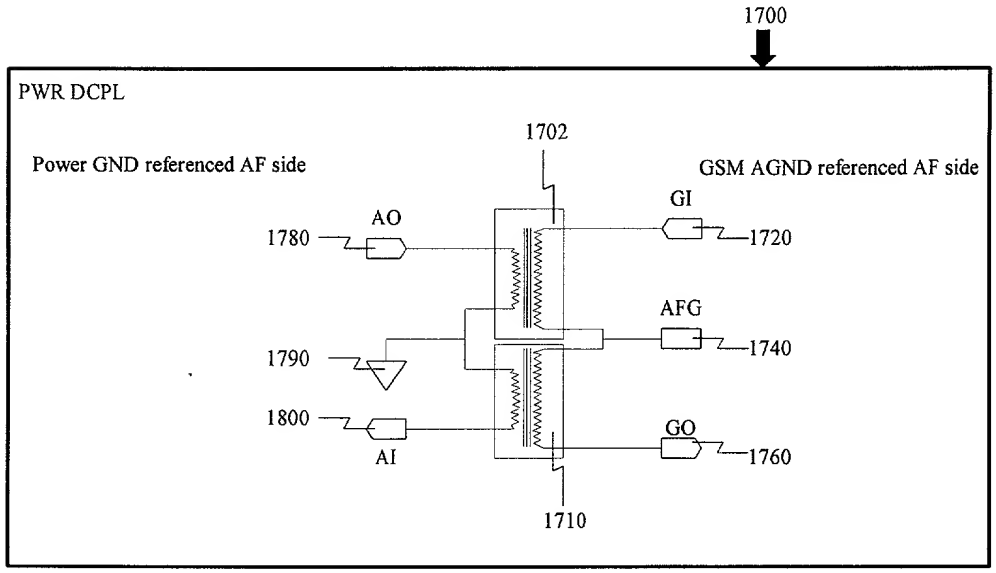
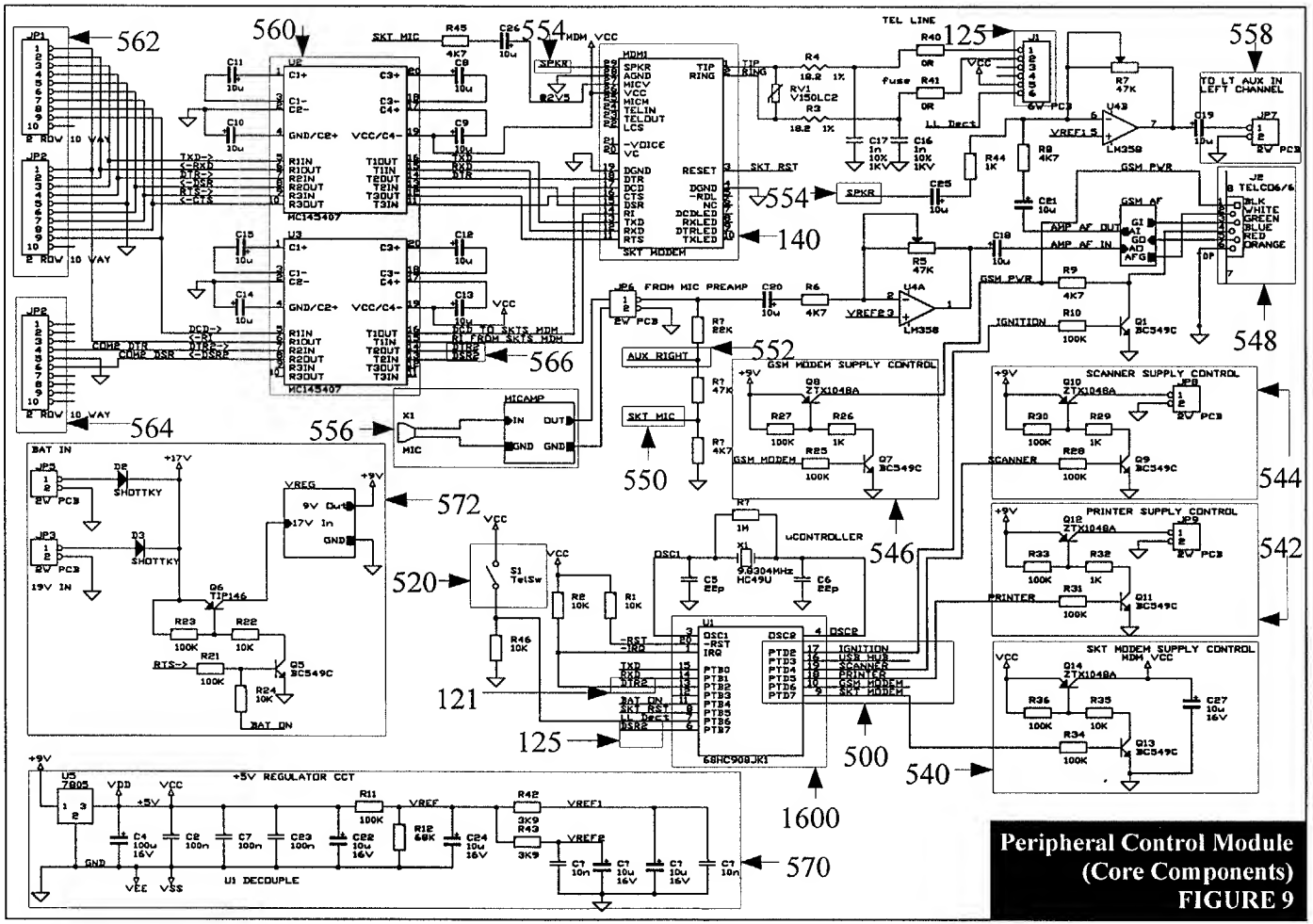

1700
PWR DCPL
1702
Power GND referenced AF side
GSM AGND referenced AF side
AO
1780
GI
1720
AFG
1740
1790
1800
AI
GO
1760
1710

Figure 8



Peripheral Control Module (Core Components)
FIGURE 9

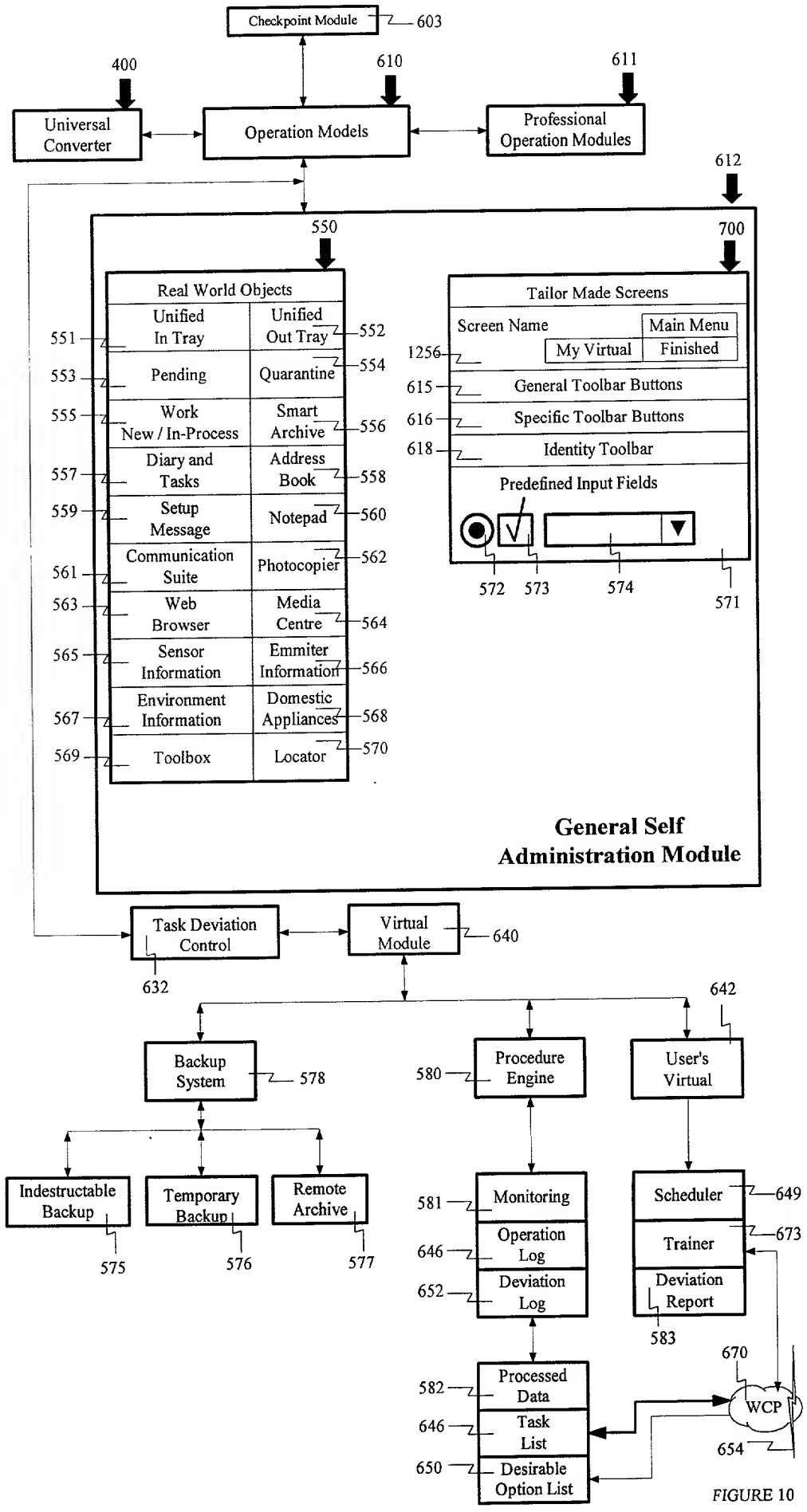
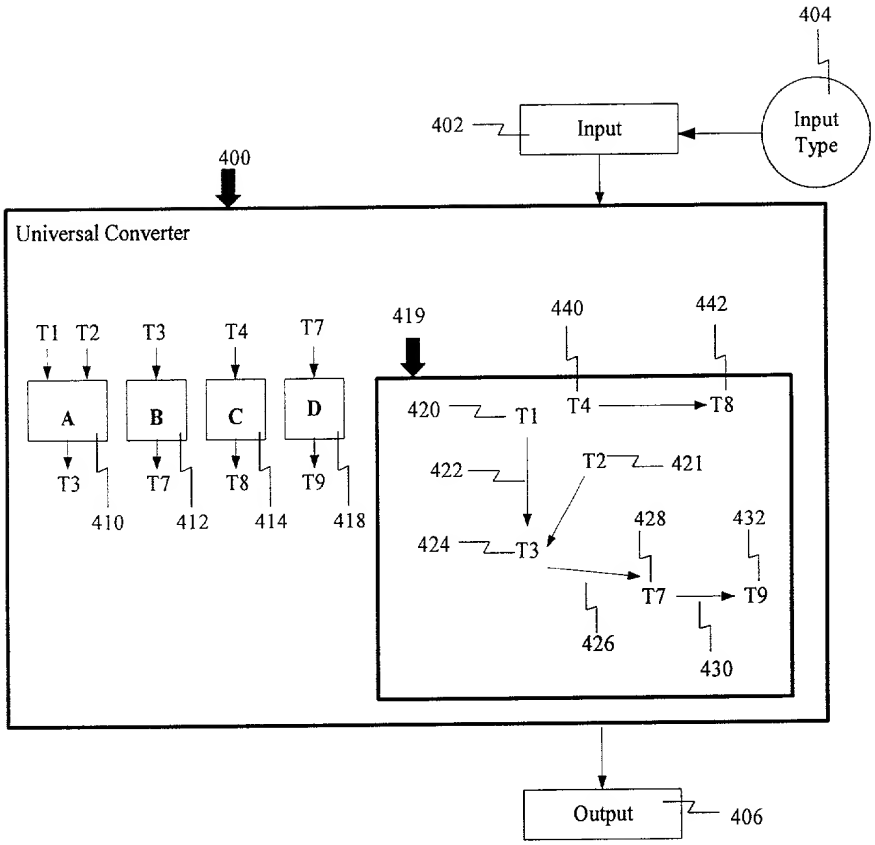

Checkpoint Module
603
400
610
611
Universal Converter
Operation Models
Professional Operation Modules
612
550
700
Real World Objects
Unified In Tray
Unified Out Tray
Pending
Quarantine
Work New / In-Process
Smart Archive
Diary and Tasks
Address Book
Setup Message
Notepad
Communication Suite
Photocopier
Web Browser
Media Centre
Sensor Information
Emmiter Information
Environment Information
Domestic Appliances
Toolbox
Locator
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
Tailor Made Screens
Screen Name
Main Menu
My Virtual
Finished
1256
615
General Toolbar Buttons
616
Specific Toolbar Buttons
618
Identity Toolbar
Predefined Input Fields
572
573
574
571
General Self Administration Module
Task Deviation Control
Virtual Module
640
632
642
Backup System
578
Procedure Engine
580
User's Virtual
Indestructable Backup
Temporary Backup
Remote Archive
575
576
577
Monitoring
581
Operation Log
646
Deviation Log
652
Scheduler
649
Trainer
673
Deviation Report
583
670
Processed Data
582
Task List
646
Desirable Option List
650
WCP
654

FIGURE 10


404
Input Type
402
Input
400
Universal Converter
T1 T2 T3 T4 T7
A
B
C
D
T3 T7 T8 T9
410 412 414 418
419
440
442
420
T1
T4
T8
422
T2
421
424
T3
428
432
T7
T9
426
430
Output
406

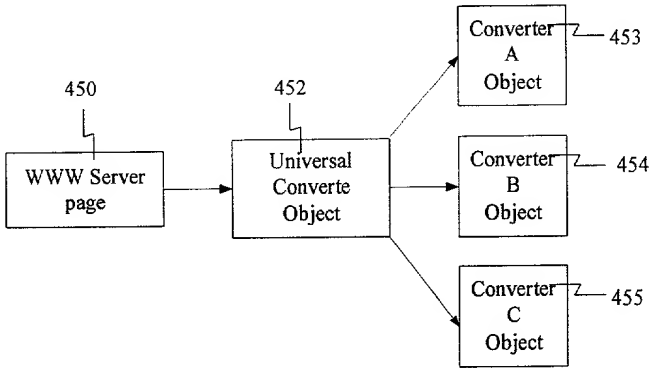

450
WWW Server page
452
Universal Converte Object
Converter A Object
453
Converter B Object
454
Converter C Object
455

FIGURE 11

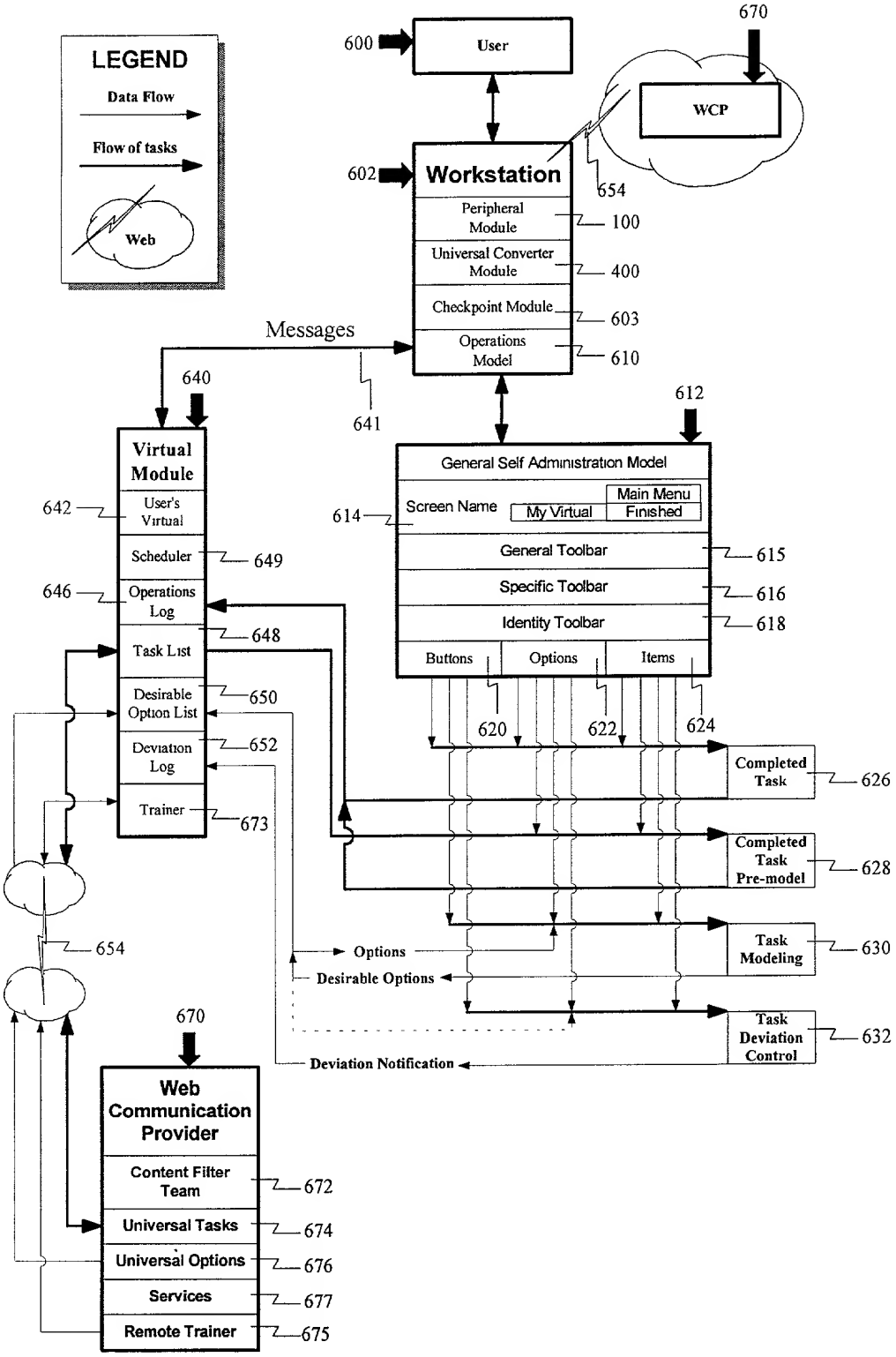
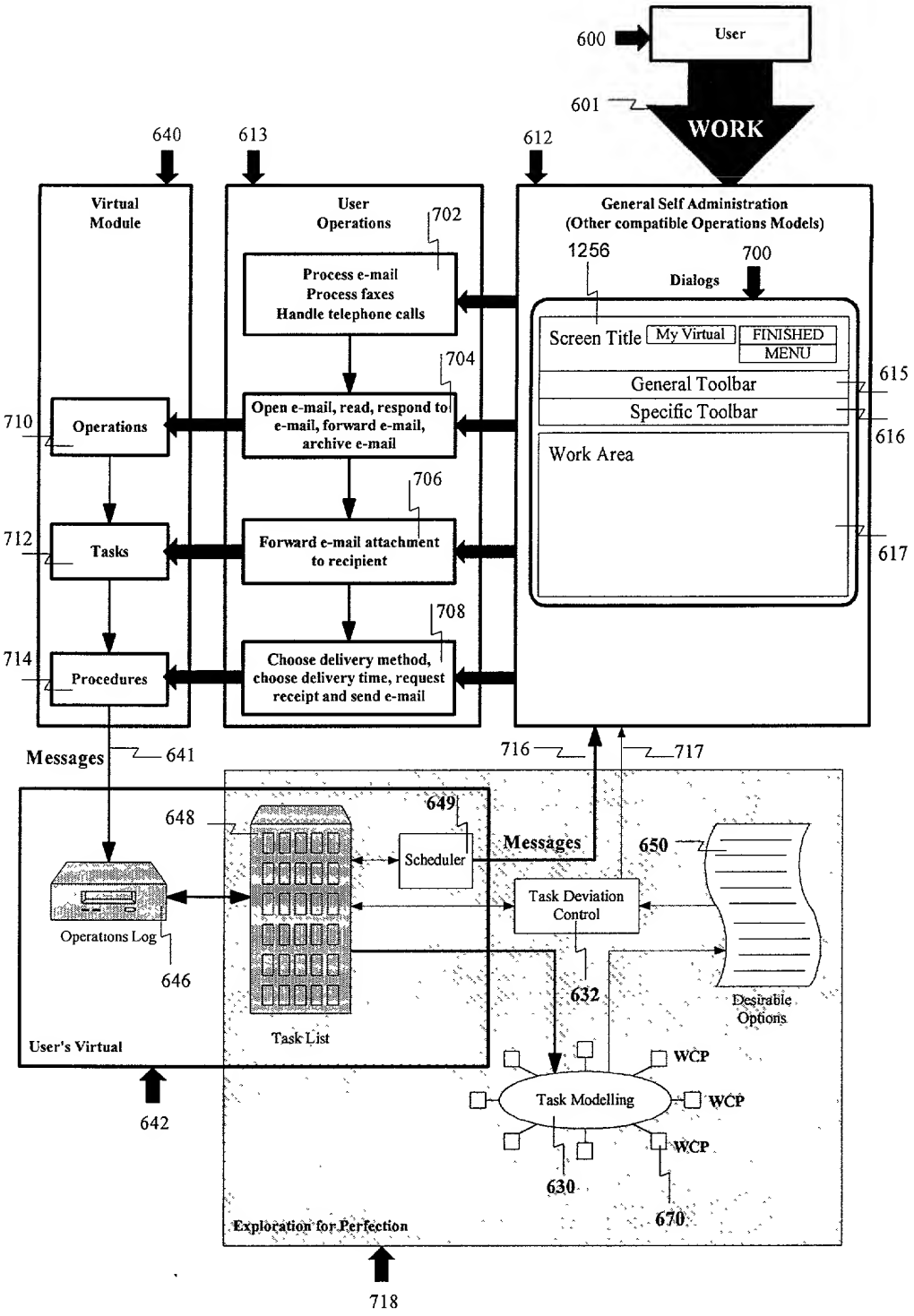

LEGEND
Data Flow
Flow of tasks
Web
600
User
670
WCP
602
Workstation
654
Peripheral Module
100
Universal Converter Module
400
Checkpoint Module
603
Operations Model
610
Messages
640
641
612
Virtual Module
642
User's Virtual
Scheduler
649
646
Operations Log
648
Task List
Desirable Option List
650
Deviation Log
652
Trainer
673
General Self Administration Model
614
Screen Name
My Virtual
Main Menu
Finished
General Toolbar
615
Specific Toolbar
616
Identity Toolbar
618
Buttons
Options
Items
620
622
624
Completed Task
626
Completed Task Pre-model
628
Task Modeling
630
Task Deviation Control
632
654
Options
Desirable Options
Deviation Notification
670
Web Communication Provider
Content Filter Team
672
Universal Tasks
674
Universal Options
676
Services
677
Remote Trainer
675

FIGURE 12


600
User
601
WORK
640
613
612
Virtual Module
User Operations
702
General Self Administration (Other compatible Operations Models)
1256
700
Dialogs
Process e-mail
Process faxes
Handle telephone calls
Screen Title
My Virtual
FINISHED
MENU
704
615
General Toolbar
Specific Toolbar
616
710
Operations
Open e-mail, read, respond to e-mail, forward e-mail, archive e-mail
Work Area
706
712
Tasks
Forward e-mail attachment to recipient
617
708
714
Procedures
Choose delivery method, choose delivery time, request receipt and send e-mail
Messages
641
716
717
648
649
Messages
650
Scheduler
Task Deviation Control
Operations Log
646
632
Desirable Options
Task List
User's Virtual
WCP
Task Modelling
WCP
WCP
642
630
670
Exploration for Perfection
718

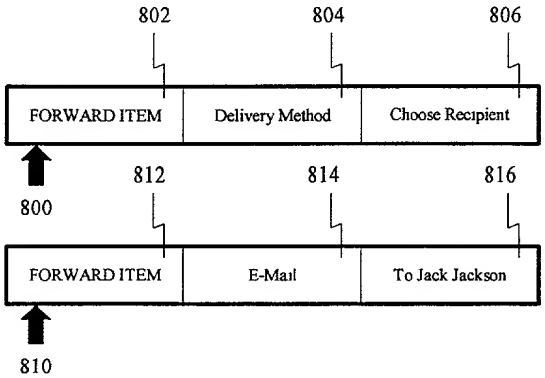

802
804
806
FORWARD ITEM
Delivery Method
Choose Recipient
800
812
814
816
FORWARD ITEM
E-Mail
To Jack Jackson
810

FIGURE 13

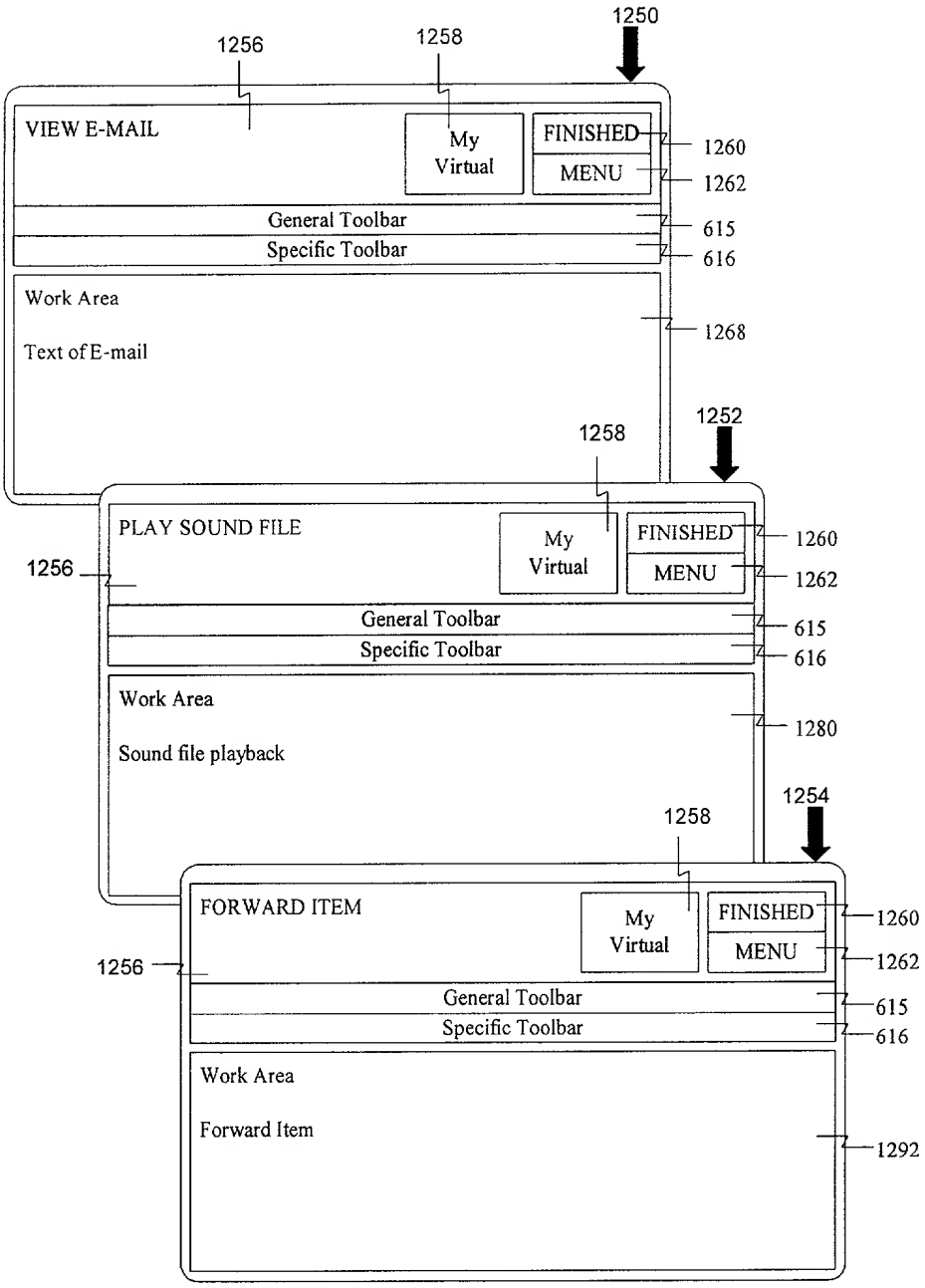

1250
1256
1258
VIEW E-MAIL
My Virtual
FINISHED
MENU
1260
1262
General Toolbar
Specific Toolbar
615
616
Work Area
Text of E-mail
1268
1252
1258
PLAY SOUND FILE
My Virtual
FINISHED
MENU
1260
1262
1256
General Toolbar
Specific Toolbar
615
616
Work Area
Sound file playback
1280
1254
1258
FORWARD ITEM
My Virtual
FINISHED
MENU
1260
1262
1256
General Toolbar
Specific Toolbar
615
616
Work Area
Forward Item
1292

FIGURE 14

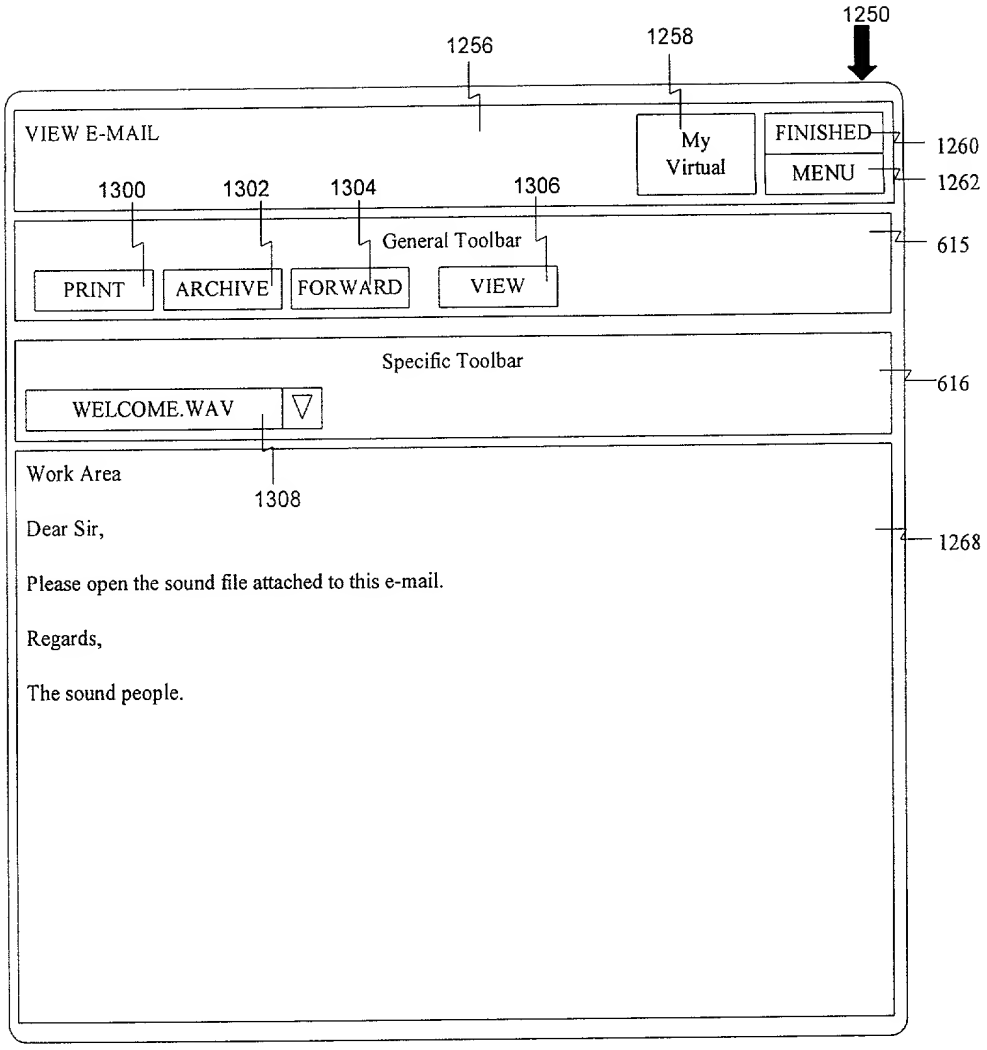

1250
1256
1258
VIEW E-MAIL
My Virtual
FINISHED
MENU
1260
1262
1300
1302
1304
1306
General Toolbar
615
PRINT
ARCHIVE
FORWARD
VIEW
Specific Toolbar
616
WELCOME.WAV
Work Area
1308
Dear Sir,
1268
Please open the sound file attached to this e-mail.
Regards,
The sound people.

FIGURE 15

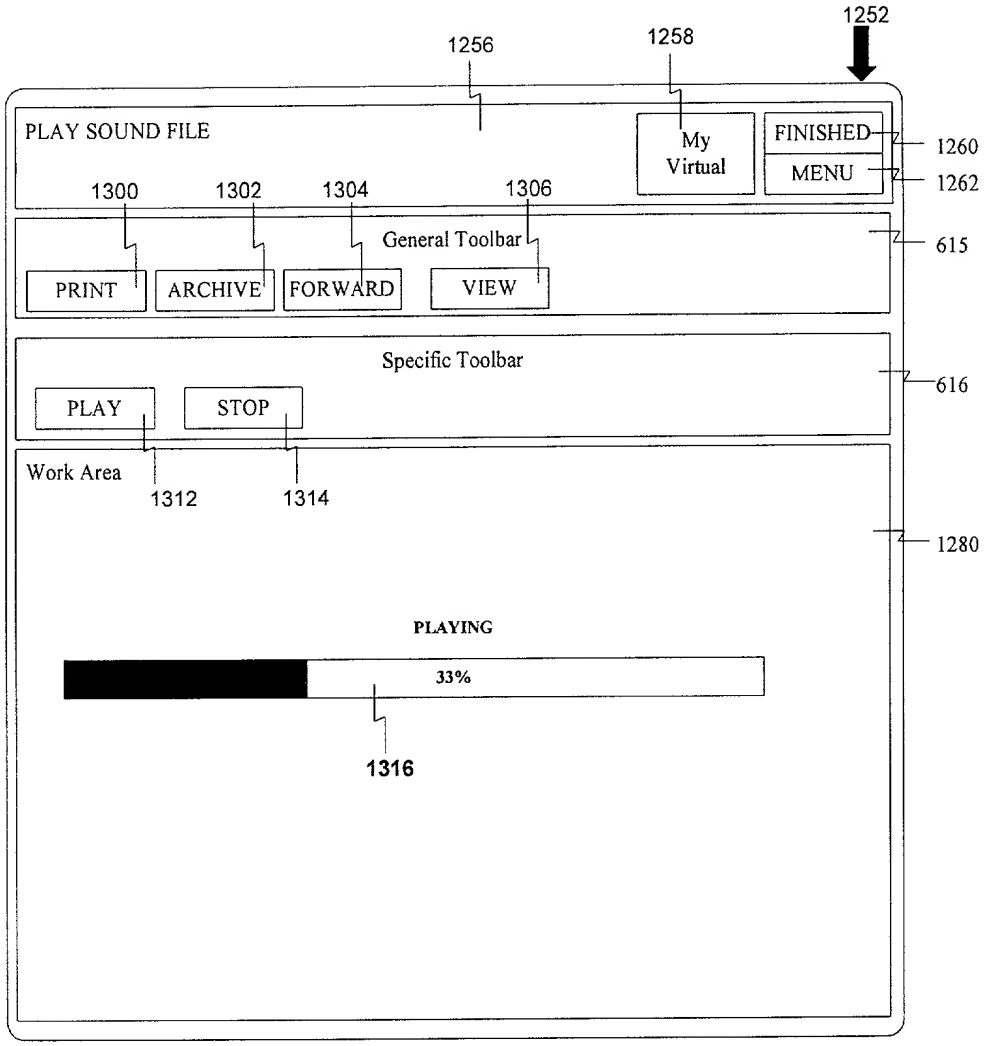

1252
1256
1258
PLAY SOUND FILE
My Virtual
FINISHED
MENU
1260
1262
1300
1302
1304
1306
General Toolbar
615
PRINT
ARCHIVE
FORWARD
VIEW
Specific Toolbar
616
PLAY
STOP
Work Area
1312
1314
1280
PLAYING
33%
1316

FIGURE 16

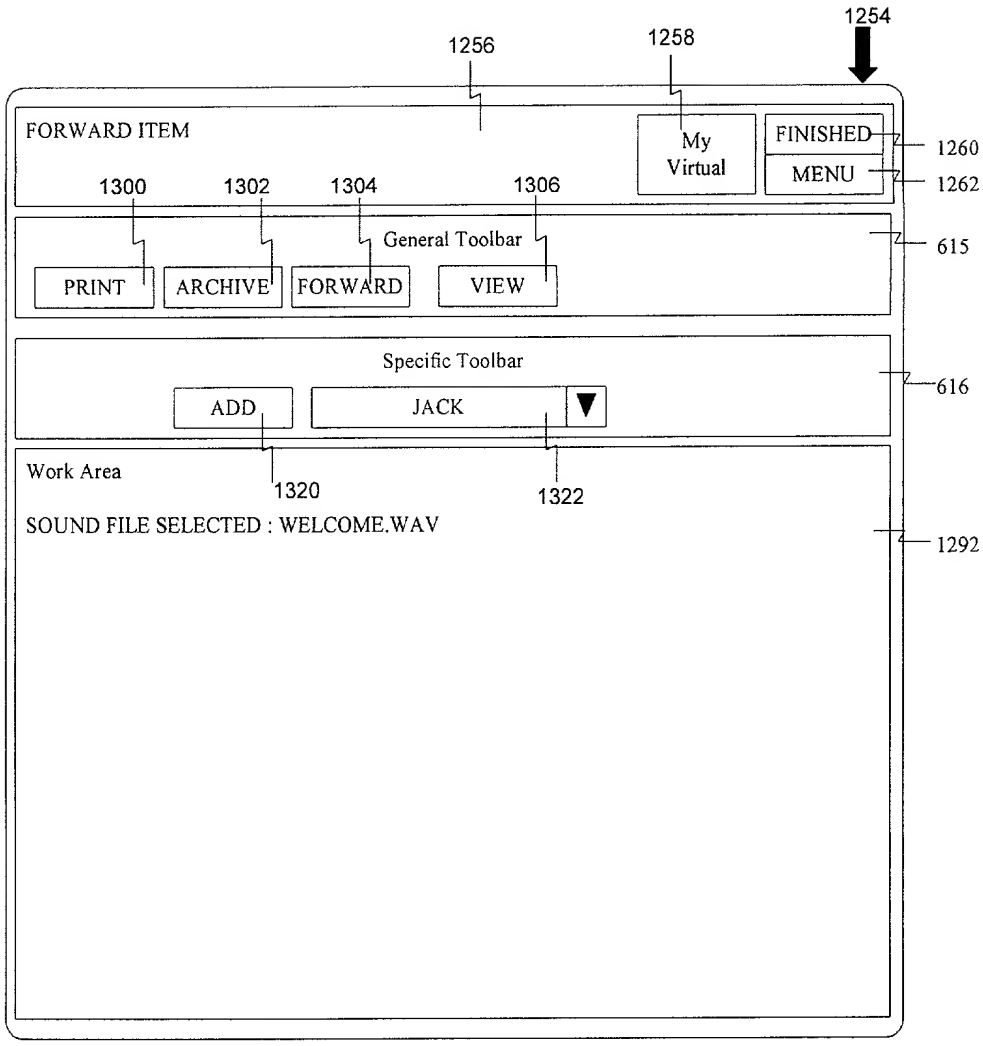

1254
1256
1258
FORWARD ITEM
My Virtual
FINISHED
MENU
1260
1262
1300
1302
1304
1306
General Toolbar
615
PRINT
ARCHIVE
FORWARD
VIEW
Specific Toolbar
616
ADD
JACK
Work Area
1320
1322
SOUND FILE SELECTED : WELCOME.WAV
1292

FIGURE 17

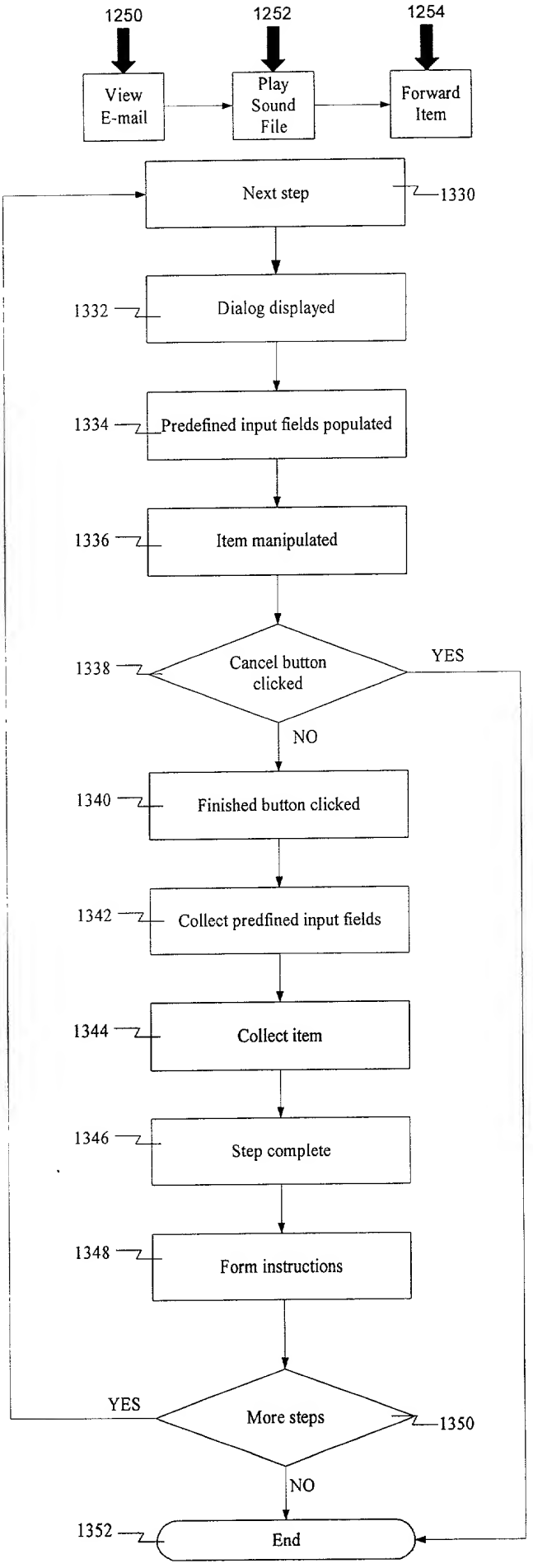

1250
1252
1254
View E-mail
Play Sound File
Forward Item
Next step
1330
1332
Dialog displayed
1334
Predefined input fields populated
1336
Item manipulated
1338
Cancel button clicked
YES
NO
1340
Finished button clicked
1342
Collect predfined input fields
1344
Collect item
1346
Step complete
1348
Form instructions
YES
More steps
1350
NO
1352
End

FIGURE 18

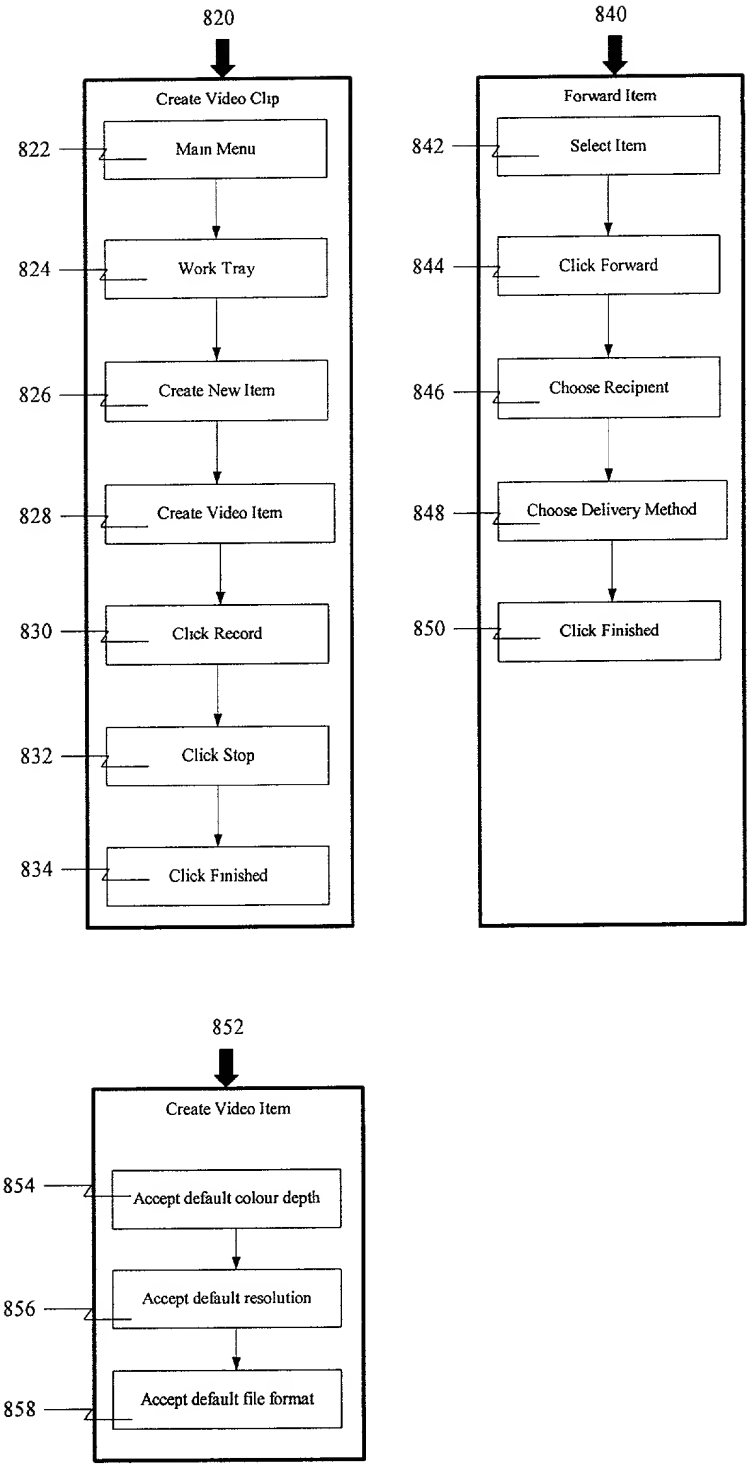

820
Create Video Clip
822
Main Menu
824
Work Tray
826
Create New Item
828
Create Video Item
830
Click Record
832
Click Stop
834
Click Finished
840
Forward Item
842
Select Item
844
Click Forward
846
Choose Recipient
848
Choose Delivery Method
850
Click Finished
852
Create Video Item
854
Accept default colour depth
856
Accept default resolution
858
Accept default file format

FIGURE 19

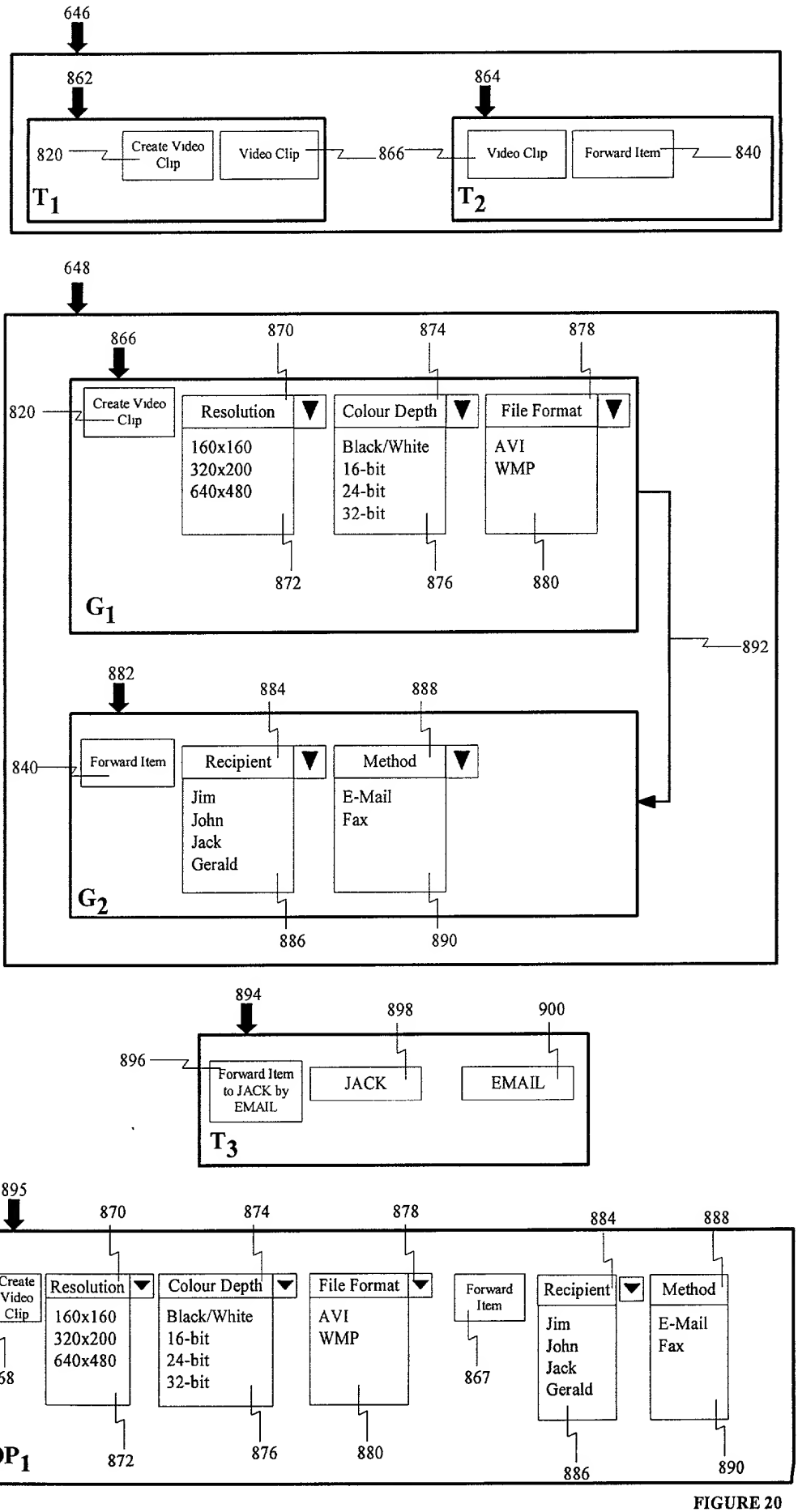

646
862
864
820
Create Video Clip
Video Clip
866
Video Clip
Forward Item
840
T1
T2
648
866
870
874
878
820
Create Video Clip
Resolution
160x160
320x200
640x480
Colour Depth
Black/White
16-bit
24-bit
32-bit
File Format
AVI
WMP
872
876
880
G1
892
882
884
888
840
Forward Item
Recipient
Jim
John
Jack
Gerald
Method
E-Mail
Fax
G2
886
890
894
898
900
896
Forward Item to JACK by EMAIL
JACK
EMAIL
T3
895
870
874
878
884
888
Create Video Clip
Resolution
160x160
320x200
640x480
Colour Depth
Black/White
16-bit
24-bit
32-bit
File Format
AVI
WMP
Forward Item
Recipient
Jim
John
Jack
Gerald
Method
E-Mail
Fax
868
872
876
880
867
886
890
OP1

FIGURE 20

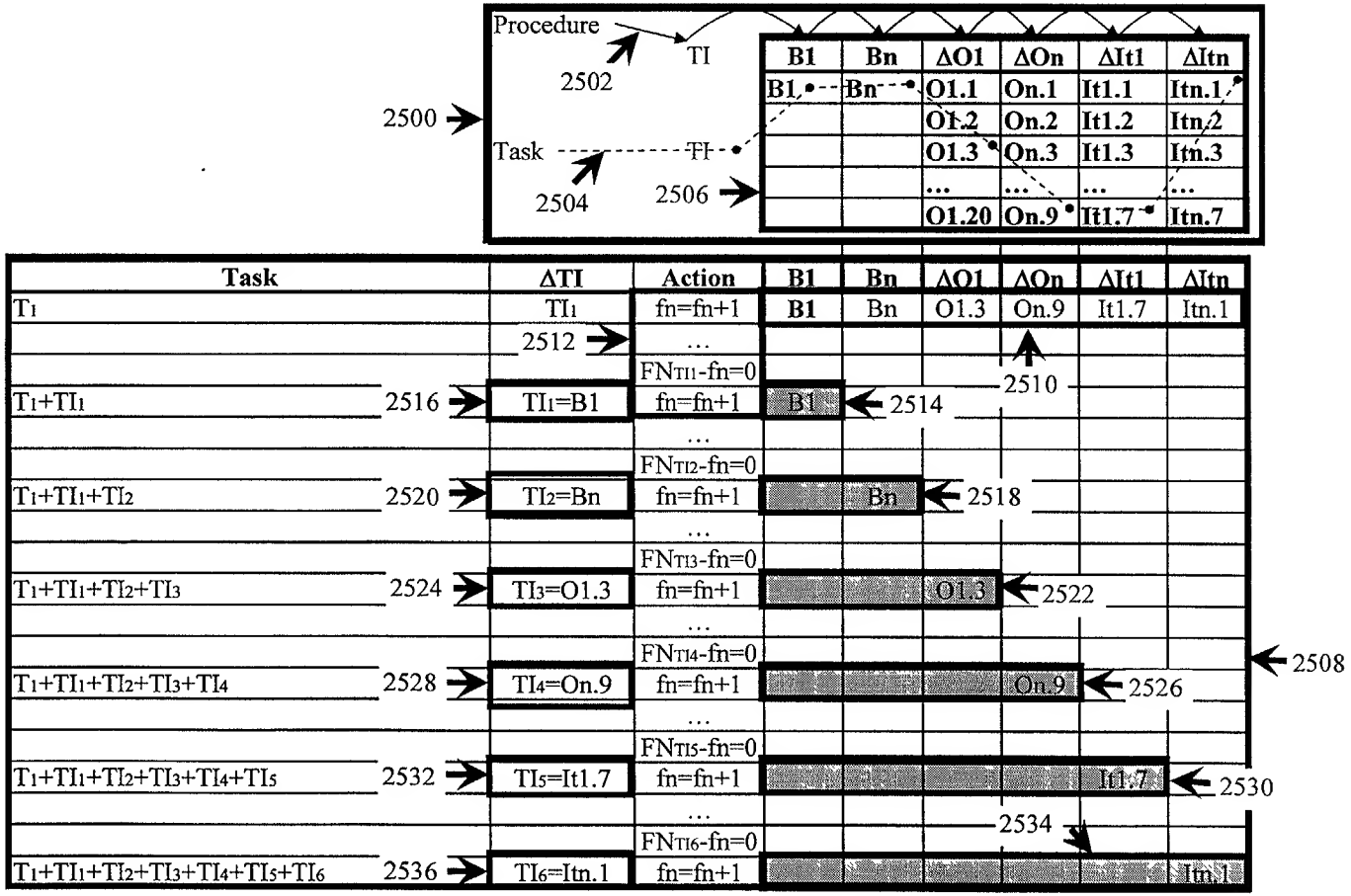

Procedure
TI
2502
2500
Task
TI
2504
2506
B1
Bn
ΔO1
ΔOn
ΔIt1
ΔItn
B1
Bn
O1.1
On.1
It1.1
Itn.1
O1.2
On.2
It1.2
Itn.2
O1.3
On.3
It1.3
Itn.3
...
...
...
...
O1.20
On.9
It1.7
Itn.7
Task
ΔTI
Action
B1
Bn
ΔO1
ΔOn
ΔIt1
ΔItn
T1
TI1
fn=fn+1
B1
Bn
O1.3
On.9
It1.7
Itn.1
2512
...
FNTI1-fn=0
2510
T1+TI1
2516
TI1=B1
fn=fn+1
B1
2514
...
FNTI2-fn=0
T1+TI1+TI2
2520
TI2=Bn
fn=fn+1
Bn
2518
...
FNTI3-fn=0
T1+TI1+TI2+TI3
2524
TI3=O1.3
fn=fn+1
O1.3
2522
...
FNTI4-fn=0
2508
T1+TI1+TI2+TI3+TI4
2528
TI4=On.9
fn=fn+1
On.9
2526
...
FNTI5-fn=0
T1+TI1+TI2+TI3+TI4+TI5
2532
TI5=It1.7
fn=fn+1
It1.7
2530
...
2534
FNTI6-fn=0
T1+TI1+TI2+TI3+TI4+TI5+TI6
2536
TI6=Itn.1
fn=fn+1
Itn.1

FIGURE 21

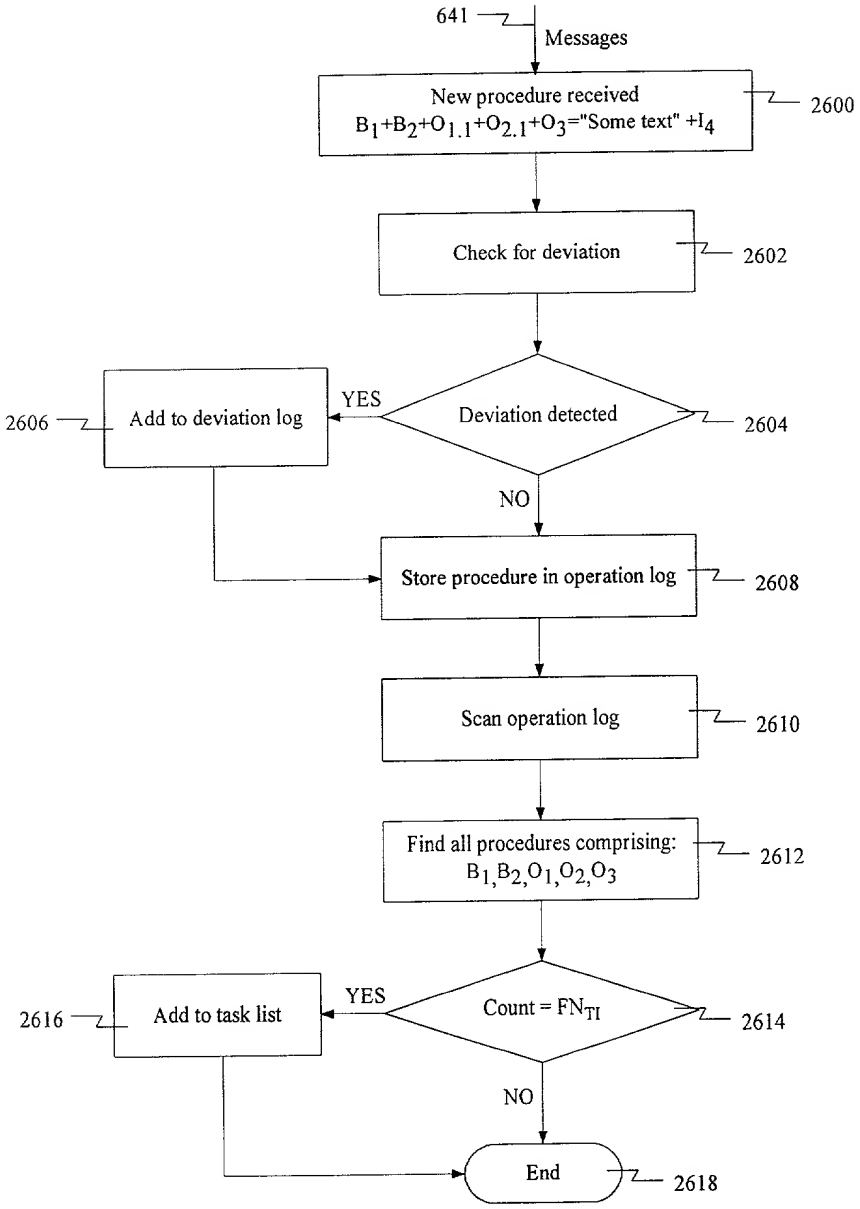

641
Messages
New procedure received
$B_1+B_2+O_{1.1}+O_{2.1}+O_3$="Some text" $+I_4$
2600
Check for deviation
2602
Deviation detected
2604
YES
2606
Add to deviation log
NO
Store procedure in operation log
2608
Scan operation log
2610
Find all procedures comprising:
B_1,B_2,O_1,O_2,O_3
2612
Count = FN_{TI}
2614
YES
2616
Add to task list
NO
End
2618

FIGURE 22

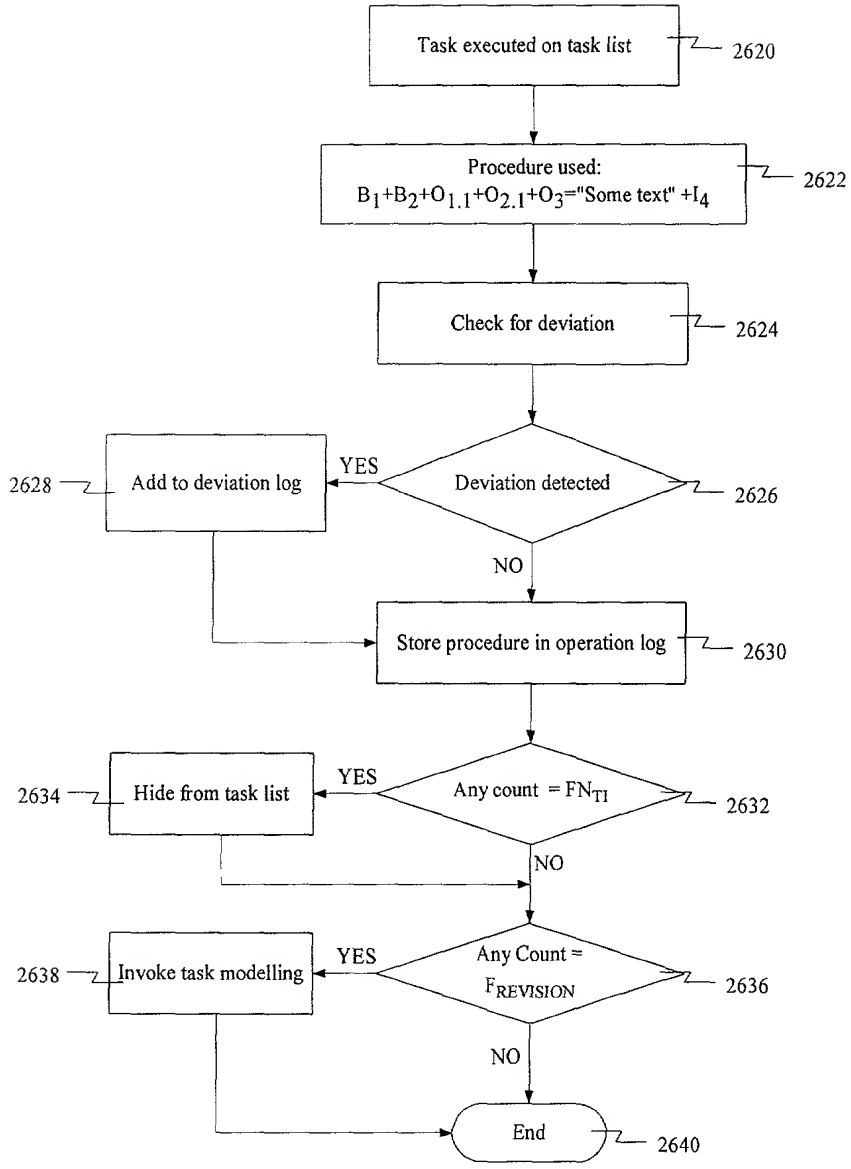

Task executed on task list
2620
Procedure used:
$B_1+B_2+O_{1.1}+O_{2.1}+O_3$="Some text" $+I_4$
2622
Check for deviation
2624
Deviation detected
2626
YES
Add to deviation log
2628
NO
Store procedure in operation log
2630
Any count = FN_{TI}
2632
YES
Hide from task list
2634
NO
Any Count = $F_{REVISION}$
2636
YES
Invoke task modelling
2638
NO
End
2640

FIGURE 23

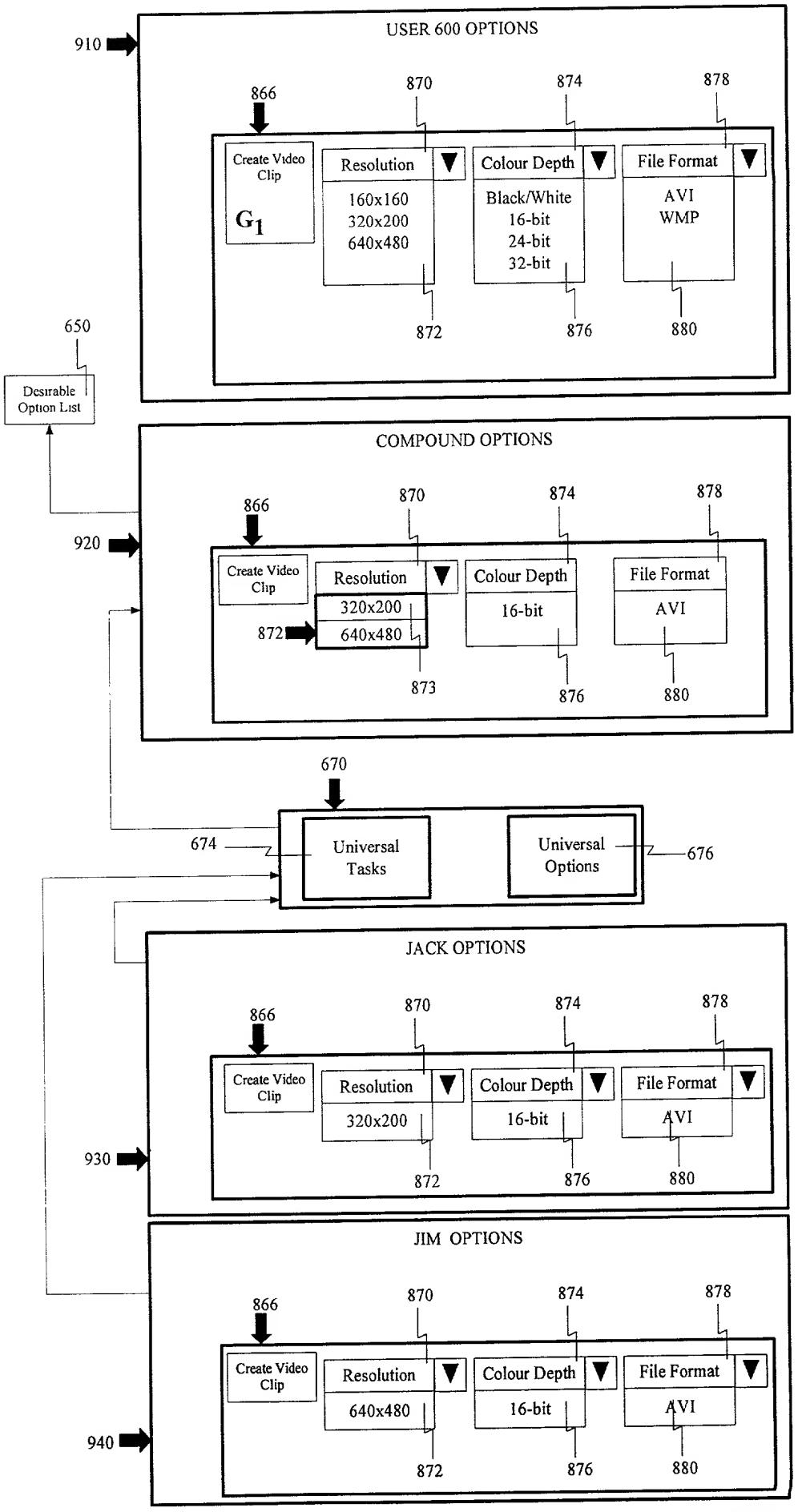

USER 600 OPTIONS
910
866
870
874
878
Create Video Clip
G1
Resolution
160x160
320x200
640x480
Colour Depth
Black/White
16-bit
24-bit
32-bit
File Format
AVI
WMP
872
876
880
650
Desirable Option List
COMPOUND OPTIONS
920
866
870
874
878
Create Video Clip
Resolution
320x200
640x480
872
Colour Depth
16-bit
File Format
AVI
873
876
880
670
674
Universal Tasks
Universal Options
676
JACK OPTIONS
930
866
870
874
878
Create Video Clip
Resolution
320x200
Colour Depth
16-bit
File Format
AVI
872
876
880
JIM OPTIONS
940
866
870
874
878
Create Video Clip
Resolution
640x480
Colour Depth
16-bit
File Format
AVI
872
876
880

FIGURE 24

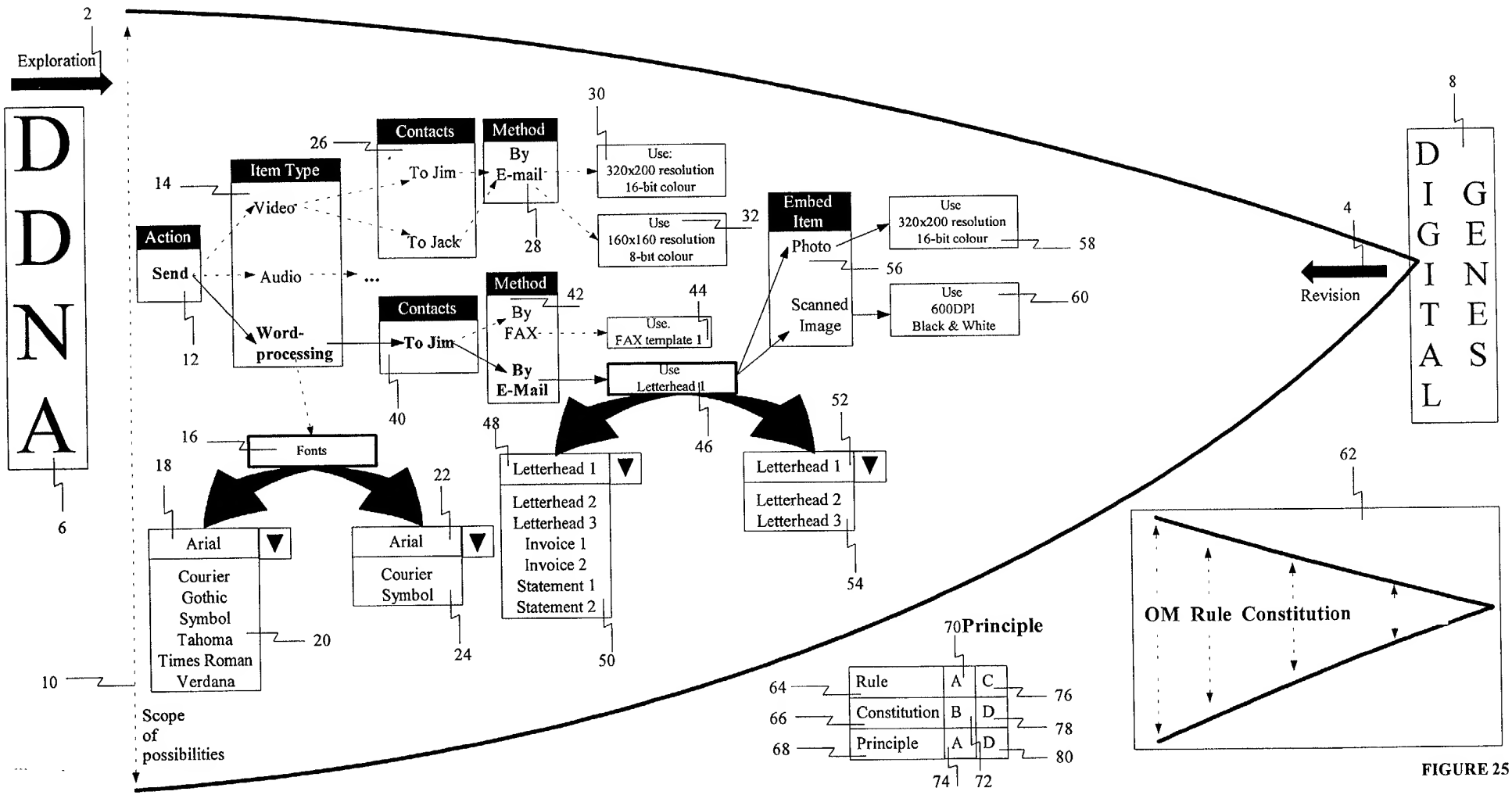

2
Exploration
DDNA
6
Item Type
Video
Audio
...
Word-processing
14
12
Action
Send
26
Contacts
To Jim
To Jack
Method
By E-mail
28
30
Use:
320x200 resolution
16-bit colour
Use
160x160 resolution
8-bit colour
32
Embed Item
Photo
Scanned Image
56
Use
320x200 resolution
16-bit colour
58
Use
600DPI
Black & White
60
Contacts
To Jim
By E-Mail
40
Method
By FAX
42
Use.
FAX template 1
44
Use
Letterhead 1
46
16
Fonts
18
Arial
Courier
Gothic
Symbol
Tahoma
Times Roman
Verdana
20
22
Arial
Courier
Symbol
24
48
Letterhead 1
Letterhead 2
Letterhead 3
Invoice 1
Invoice 2
Statement 1
Statement 2
50
52
Letterhead 1
Letterhead 2
Letterhead 3
54
10
Scope of possibilities
70Principle
64
66
68
Rule
Constitution
Principle
A
B
A
C
D
D
76
78
80
74
72
4
Revision
8
DIGITAL GENES
62
OM Rule Constitution

FIGURE 25